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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,460	11/26/2001	Ravi Subrahmanyam	AMCC-006XX	9500
207	7590	05/09/2005	EXAMINER	
WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP			YANG, LINA	
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BOSTON, MA 02109			PAPER NUMBER	
			2665	

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,460

Applicant(s)

SUBRAHMANYAN ET AL.

Examiner

Lina Yang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/26/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-26 is/are allowed.
- 6) ☒ Claim(s) 27-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1, 3, 4 and 6 are objected to because of the following informalities:

Page 19 line 18, "...providing as an output an error signal" should be replaced with "...providing an error signal as an output" ;

Page 19 lines 22 and 28; page 20 lines 9, 11 and 17, "...the data..." should be replaced with "...the error data...";

Page 20 line 19, "a error data" should be replaced with "an error data".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 14-17, 21-24 and 28-31 are rejected under 35 U.S.C. 112, second paragraph.

Claims 14-17, 21-24 and 28-31 recite the limitation "...by the monitor".

There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Mueller (US Patent No. 4,302,839).

Regarding claim 27, Mueller discloses a method for maintaining a data rate in a desynchronizer, the method comprising the steps of: receiving an input data signal (Fig. 2; col. 3 lines 20-32); recovering a first data rate of the input data signal (col. 3 lines 20-32; 2.048 megabits per second for one channel) detecting an error condition in the input data signal (unit 5 in Fig. 2); generating an AIS data rate signal substantially equal to the first data rate (col. 3 lines 66-68; col. 4 lines 1-3; col. 1 lines 36-50; there are four channels each carrying signals having a pulse repetition rate of 2.048 megabits per second are merged into one carrying signals with a pulse repetition rate of 8.448 megabits per second); and generating a predetermined AIS characteristic data sequence at the AIS data rate such that the AIS characteristic data has a data rate substantially equivalent to the first data rate (col. 3 lines 66-68; col. 4 lines 1-3; col. 1 lines 36-50; there are four channels each carrying signals having a pulse

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repetition rate of 2.048 megabits per second are merged into one carrying signals with a pulse repetition rate of 8.448 megabits per second) .

Regarding claim 28, Mueller discloses that the error condition detected by the monitor is a loss of signal error (col. 1 lines 17-21).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 31 rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller (US Patent No. 4,302,839).

Regarding claim 31, Mueller differs from the claimed invention in that Mueller does not specifically teach the error condition detected by the monitor are the portion of the data providing indicia of the existence of an error condition. However, as claim 27 itself says, "detecting an error condition in the input data signal", it is obvious for one of ordinary skill in the art to recognize "the portion of the data providing indicia of the existence of an error" as one of the error condition

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller (US Patent No. 4,302,839) in view of Stephenson, Jr. (U.S. Patent No. 5,235,332).

Regarding claim 29, Mueller differs from the claimed invention in that Mueller does not specifically teach the error condition detected by the monitor is a loss of clock signal error. However, it is well known in the art that the detected errors can be any error which causes the communication fail, for example, Stephenson, Jr. teaches that the error condition detected by the monitor is a loss of clock signal error (col. 1 lines 24-26). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include the clock signal error as one error condition, such as the one taught by Stephenson, Jr. into the assembly taught by Mueller in order to facilitate all the possible error conditions.

6. Claims 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller (US Patent No. 4,302,839) in view of Roberts et al. (U.S. Patent No. 6,009,075).

Regarding claim 30, Mueller differs from the claimed invention in that Mueller does not specifically teach the error condition detected by the monitor is a loss of frame signal error. However, it is well known in the art that the detected errors can be any error which causes the communication fail, for example, Roberts teaches that the error condition detected by the monitor is a loss of

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frame signal error (col. 11 lines 58-67). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include the frame signal error as one error condition, such as the one taught by Roberts into the assembly taught by Mueller in order to facilitate all the possible error conditions.

Regarding claim 32, Mueller differs from the claimed invention in that Mueller does not specifically teach the portion of the data providing indicia of the existence of an error condition indicates an AIS error has occurred upstream in the data network. However, it is well known in the art that the detected errors can be any error which causes the communication fail, for example, Roberts teaches that the error condition detected by the monitor is a Line Alarm Indication (AIS-L) (col. 11 lines 58-67). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include the portion of the data providing indicia of the existence of an error condition indicates an AIS error has occurred upstream in the data network as one error condition, such as the one taught by Roberts into the assembly taught by Mueller in order to facilitate all the possible error conditions.

Allowable Subject Matter

7. Claims 1-13, 8-20 and 25-26 are allowed. Claims 14-17 and 21-24 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter

Claims 1-12 are allowable since prior art of record, does not teach or suggest an apparatus for preventing data loss in a network device receiving at least one network data connection, the network device including a framer, a pointer interpreter, a demapper, and a phase locked loop (PLL), the PLL providing a PLL control word indicative of the PLL recovered data rate of the PLL, the network data connection carrying a plurality of data messages having a first format, the first format including a portion of the data providing indicia of the existence of an error condition, the plurality of data messages having an input data rate, the apparatus comprising: a monitor for detecting an error condition, the monitor configured and arranged that in the event an error condition is detected, the monitor is responsive to the detected error condition by providing as an output an error signal; a protection device including an error data generator and an error data rate generator, the error data rate generator coupled to the PLL, the error data rate generator configured and arranged to receive the PLL control word, the data rate generator responsive to the PLL control word by providing a carrier signal for a data rate substantially equal to

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the PLL recovered data rate, the error data generator coupled to the monitor and being responsive to the error signal by generating a plurality of predetermined error data, wherein the error data rate generator is coupled to the data generator and in conjunction therewith provide as an output, the plurality of predetermined error data at the PLL recovered data rate; and the plurality of predetermined error data provided to the network device wherein the network device inserts the plurality of predetermined error data into the plurality of data messages at the appropriate locations; in addition of other limitations recited in claims 2-12.

Claims 13-19 are allowable since prior art of record, does not teach or suggest an apparatus for preventing data loss among a plurality of network devices, each of the plurality of network devices including a framer, a pointer interpreter, a demapper, and a phase locked loop (PLL), each of the plurality of network devices receiving at least one of a plurality of network data connections, each of the plurality of network data connections carrying a plurality of data messages each of the plurality of data messages being in a first format and having a portion of data providing indicia of an error occurring, each framer receiving the plurality of data messages and providing gapped data to the pointer interpreter that provides gapped data to the demapper that removes the incoming data from each of the plurality of data messages, the demapper providing demapped gapped data to the PLL that provides an output of ungapped data, each PLL further providing a control word indicative of the PLL

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recovered data rate, the apparatus comprising: a first switching module coupled to the plurality of network data connections, the first switching module monitoring the data messages and detecting an error condition, the first switching module providing indicia of the error condition, the first switching module configured and arranged to provide an error signal in the event that the monitored predetermined parts of a data message indicates an error has occurred; a control word module coupled to the phase locked loop of each of the plurality of network devices to monitor a control word providing indicia of the input data rate of the plurality of data messages received by the corresponding network device and the control word module further coupled to the first switching module and the control word module configured and arranged to provide as an output the control word of one of the plurality of network devices identified as receiving a network data connection identified as having an error condition; a protection device including an error data generator and an error data rate generator, the error data rate generator coupled to the control word module, the error data rate generator configured and arranged to receive the control word and to provide a data carrier signal to provide a data rate substantially equal to the PLL recovered data rate of the corresponding network device, the error data generator coupled to the switching module and being responsive to the error signal by generating error data, wherein the error data generator in conjunction with the error data rate generator provide as an output, the plurality of predetermined error data at substantially the PLL recovered data rate; the plurality of predetermined error data at substantially the PLL recovered data rate

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provided to the network device to be appropriately inserted into the plurality of data messages on the identified data network connection; in addition of other limitations recited in claims 14-19.

Claims 20-26 are allowable since prior art of record, does not teach or suggest an apparatus for preventing data loss among a plurality of network devices, each of the plurality of network devices including a framer, a pointer interpreter, and a phase locked loop (PLL), each of the plurality of network devices receiving at least one of a plurality of network data connections, each of the plurality of network data connections carrying a plurality of data messages each of the plurality of data messages being in a first format and having a portion of data providing indicia of an error occurring, each framer receiving the plurality of data messages and providing gapped data to the pointer interpreter that provides gapped data to the PLL that provides an output of ungapped data, each PLL further providing a control word indicative of the PLL recovered data rate, the apparatus comprising: a first switching module coupled to the plurality of network data connections, the first switching module configured and arranged to monitor the incoming data messages for an error condition and in the event of an error condition being detected, to provide an error signal including indicia of the detected error condition; a control word module coupled to the phase locked loop of each of the plurality of network devices to monitor a control word providing indicia of the input data rate of the plurality of data messages received by the corresponding network device and the control word module further

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coupled to the first switching module and the control word module configured and arranged to provide as an output the control word of one of the plurality of network devices identified as receiving a network data connection identified as having an error condition; a protection device including an error data generator and an error data rate generator, the error data rate generator coupled to the control word module, the error data rate generator configured and arranged to receive the control word and to provide a data carrier signal for to provide a data rate substantially equal to the PLL recovered data rate of the corresponding network device, the error data generator coupled to the first switching module and being responsive to the error signal by generating error data, wherein the error data generator in conjunction with the error data rate generator provide as an output, the plurality of predetermined error data at substantially the PLL recovered data rate; the protection device further including a protection device framer, pointer interpreter, a mapper and PLL coupled to the error data rate generator, wherein in the event that an error condition has been detected, the first switching module is configured and arranged to provide the plurality of data messages carried on the identified data network connection to the protection device framer for processing, wherein the protection device framer receiving the plurality of data messages and providing gapped data to the protection device pointer interpreter that provides gapped data to the protection device PLL that provides an output of ungapped data at the network device PLL recovered data rate; the plurality of predetermined error data at substantially the PLL recovered data rate provided to the network device to be appropriately inserted into the

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plurality of data messages; in addition of other limitations recited in claims 21-26.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lina Yang whose telephone number is (571)272-3151. The examiner can normally be reached on 7:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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